

Listing of Claims:

1. (Original) A drop ejection device, comprising: a flow path in which fluid is pressurized to eject drops from a nozzle opening, a piezoelectric actuator for pressurizing said fluid, and one or more waste fluid control apertures proximate the nozzle opening, the aperture being in communication with a vacuum source.
2. (Original) The device of claim 1 including fluid control apertures which are spaced from the nozzle opening by about 200% of the nozzle opening width or less.
3. (Original) The device of claim 1 including fluid control apertures which are spaced from the nozzle opening by about 200% to about 1000% of the nozzle opening width or less.
4. (Original) The device of claim 1 wherein the control apertures are in communication with the flow path in which fluid is pressurized.
5. (Original) The device of claim 1 wherein each control aperture has a fluid resistance of about 25 times or more than the fluidic resistance of the nozzle opening.
6. (Original) The device of claim 1 wherein the average total flow through the apertures is about 10% or less than the average flow through the nozzle opening.
7. (Original) The device of claim 1 wherein each aperture has a width of about 30% or less than the width of the nozzle opening.
8. (Original) The device of claim 1 wherein the width of the nozzle opening is about 200 microns or less.
9. (Original) The device of claim 1 wherein each control aperture has a diameter of about 10 microns or less.

10. (Original) The device of claim 1 including a nonwetting coating proximate the nozzle opening.

11. (Original) The device of claim 1 wherein the flow path, nozzle opening, and control aperture are defined in common body.

12. (Original) The device of claim 11 wherein the body is a silicon material.

13-15. (Cancelled)

16. (Original) A drop ejection device, comprising: a flow path in which fluid is pressurized to eject drops from a nozzle opening, a piezoelectric actuator, and one or more fluid control apertures, the fluid control apertures being spaced from the nozzle opening by a distance of about 200% of the nozzle opening width or less, and each aperture having an aperture width of about 30% or less than the width of the nozzle opening.

17. (Original) The device of claim 16 includes at least three apertures.

18. (Original) The device of claim 16 including a nonwetting coating adjacent the nozzle opening.

19. (Cancelled)

20. (Original) The device of claim 16 wherein the flow path, nozzle opening, and control aperture are defined in common body.

21-22. (Cancelled)

23. (Original) A method of ejecting fluid, comprising: providing a fluid drop ejection apparatus including a nozzle opening and at least one waste fluid control aperture, the waste fluid control

aperture in communication with a vacuum, ejecting fluid at a frequency of about 10 KHZ or greater, and drawing waste fluid through said aperture in an amount of about 5% or less of the fluid ejected at an operating vacuum of about 5 inches of water or less.

24. (Original) The method of claim 23 including at least three apertures.

25. (Original) The method of claim 23 comprising drawing about 2% of fluid ejected at about 2 inches of water or less.

26. (Original) The method of claim 23 wherein the control aperture and the nozzle opening are in communication with a common fluid supply and the fluid supply and the vacuum are communicated through said fluid supply.

27. (Original) The method of claim 23 wherein the control aperture is about 30% or less the diameter of the nozzle opening.

28. (Original) The method of claim 23 wherein the diameter of the nozzle opening is about 200 microns or less.

29-33. (Cancelled)